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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/771,809	01/29/2001	Glenn G. Amatucci	APP 1372-US	7825	
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Vincent Smeraglia, Esq. Rutgers University			MERCADO, JULIAN A		
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New Brunswick, NJ 08901			1745	, 1	
			DATE MAILED: 12/29/2003	14	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary Summary	•		Application	ı No.	Applicant(s)			
Julian Mercado 1745			09/771,809		AMATUCCI, GLENN			
- The MALING DATE of this communication appears on the cover sheet with the correspondence address - Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ② MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. Extractions of term ray be a realized used the proteids and 3 for RF1.136(a). In covert, however, may a reply be timely filled If the period for reply repedied above is less than thing (30), story, as reply within the statistic reply in specific and the period for reply repedied above is less than thing (30), story, as reply within the statistic reply in specific and reply is specific above. Its maximum stations period will applied and thing (30), story, with the considered timely. If the period for reply repedied above is less than thing (30), story, as reply within the statistic reply its statistic reply within the statistic reply its statistic reply within the statistic reply its statistic reply within the statistic reply its statistic reply and the replication is Final A. 20 Responsive to communication(s) filled on 21 October 2003 2a This action is FinAL. 2b This action is FinAL. 2b This action is finAL. 2b This action is finAL. 2c This ac		Office Action Summary	Examiner		Art Unit	(),()		
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THE MAILING DATE OF THIS COMMUNICATION. Edections of time may be variable under the provisions of 3 CPR 1.15(6). In no event, however, may a reply be timely filed sher SIX (6) MONTHS from the mailing date of this communication. I the period reply specified date is last than thing (70) days, a reply white the studiety internum of this; (20) days will be considered limity. I the period reply specified date is last than thing (70) days, a reply white the studiety internum of this; (20) days will be considered limity. Fallulas to reply whith in the stor or dedned period for reply will, by studiet, causes the application to become ARANCONED (35 U.S.C. § 133). Any reply received by the Office let the three homes have she the mailing date of this communication, even if timely filed, may reduce any country desired them objections to see 37 CPR 1.76(6). Status 1)[S] Responsive to communication(s) filed on 21 October 2003. 2a) This action is FINAL. 2b) This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claim(s) 4i) Claim(s) 1-10 is/are pending in the application. 4a) Of the above claim(s) 1-7 is/are withdrawn from consideration. 5) Claim(s) share slivare erjected. 7) Claim(s) is/are allowed. 6) Claim(s) share subject to restriction and/or election requirement. Application Papers 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are: a) scepted or b) objected to by the Examiner. Application may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). 11) The proposed drawing correction filed on is/are: a) approved b) disapproved by the Examiner. 11 approved, corrected drawings are required in reply to this Office action. 12) The eath or declaration is objected to by the Examiner. 13 Acknowledgment is made of a claim for foreign priority unde	• •							
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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 21, 2003 has been entered.

Claims 1-10 are pending, with claims 1-7 having been withdrawn from consideration as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102 and 103

The rejection of claims 8 and 10 under 35 U.S.C. 102(b) based on Peramunage et al. has been withdrawn.

The rejection of claim 9 under 35 U.S.C. 102(b) or under 35 U.S.C. 103(a) based on Peramunage et al. has been withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atsumi et al. (U.S. Pat. 6,120,938) in view of Peramunage et al. ("Preparation of Micron-Sized Li₄Ti₅O₁₂ and

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its Electrochemistry in Polyacrylonitrile Electrolyte-Based Lithium Cells", *J. Electrochem. Soc.*, 1998, Vol. 145, No. 8, pp. 2609-2615).

Regarding independent claims 8 and 9, Atsumi et al. teaches a particulate zero strain lithium titanate intercalation compound of the formula Li_yTi_zO₄. (col. 5 line 26-34) As to this particulate material being a nanostructure, Atsumi et al. specifically teaches that the lithium titanate compound is preferably from 0.05 µm to 50 µm, thus, the claimed particle sizes of less than 100 nm is taught by Atsumi et al. to the extent that 0.05 µm or 50 nm and greater overlaps with this range. (col. 5 line 2-8) Additionally, Atsumi et al. is considered to provide motivation for the skilled artisan, e.g. "easiness in use as powder and realizing a satisfactory characteristic of the battery" which would motivate focusing on particle sizes at the bottom of the "preferred" range and to explore particle sizes below that range.

As to the limitations in independent claim 9 drawn to providing a mixture, heating said mixture, holding said mixture at a specified annealing temperature, and cooling the resulting particles, these limitations have not been given patentable weight as the method limitations do not further limit the product claim. The claimed product appears to be the same or similar to the prior art product insofar as being a lithium titanate intercalation compound. In the event that any differences can be shown by the product as recited in the product-by-process claim, such differences would have been obvious to the skilled artisan as a routine modification of the product absent of a showing of unexpected results. *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985).

Independent claim 10 is drawn to this nanostructure particulate zero strain lithium titanate intercalation compound as an active material in a rechargeable battery. Atsumi et al. specifically

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teaches an anode or negative electrode comprising the lithium titanate material, a positive electrode, i.e. counter electrode comprising a second electrochemically active material such as metal lithium, and a separator interposed therebetween. (col. 8 line 55 et seq.)

Atsumi et al. does not explicitly teach the lithium titanate intercalation compound to be zero strain. However, Peramunage et al. teaches zero strain lithium insertion compounds. The skilled artisan would have found obvious to modify Atsumi et al.'s invention by employing a zero strain insertion compound for reasons such as enhanced rechargeability and rate capability due to the absence of structural deformations in the zero strain compound. (Peramunage et al., page 2609 under 'Introduction')

Response to Arguments

Applicant's arguments against Peramunage et al. insofar as not teaching an intercalation compound having particle sizes of less than 100 nm have been considered but are most in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

CAROL CHANEY

PRIMARY EXAMINER